PATENT

Application No. 09/868,379 Filing Date: 08/15/2001 Examiner: Frederick F. Krass

Art Unit: 1614 Attorney Docket No.219-06/H03763

II. Amendment

Applicants amend claims 8–9, 13–16 and 20–21, cancel claims 10 and 17 and add claims 22–25, as set forth below in a listing of all of the claims in the application, with the status of each claim noted parenthetically, in accordance with 37 C.F.R. §1.121. This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

Claims 1-7. canceled.

Claim 8. (currently amended) A suspension of one or more phosphate calcium salts, fluoride calcium salts, or fluorophosphate calcium salts in a liquid medium in which the salts are less than 1 g/l soluble, wherein the calcium salts comprise primary particles having diameters of from 5 to 50 nanometers and lengths of from 10 to 150 nanometers, stabilized against agglomeration by a content of at least 0.01% by weight, based on the weight of the suspension, of a water-soluble surfactant or of a water-soluble polymeric protective colloid selected from the group consisting of gelatin, casein, starch, plant gums, cellulose ethers, methylcellulose, hydroxyethylcellulose, carboxymethylcellulose, hydroxyethylstarch and hydroxypropylguar, adsorbed onto said particles.

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Claim 9. (currently amended) A suspension comprising 1% to 40% by weight of one or more phosphate calcium salts, fluoride calcium salts or fluorophosphate calcium salts in a liquid medium in which the salts are less than 1 g/l soluble, wherein the calcium salts comprise primary particles having diameters of from 5 to 50 nanometers and lengths of from 10 to 150 nanometers, said particles stabilized against agglomeration by a content of at least 0.1% to 10% by weight, based on the weight of the one or more calcium salts, of a water-soluble surfactant or a water-soluble polymeric protective colloid selected from the group consisting of gelatin, casein, starch, plant gums, cellulose ethers, methylcellulose, hydroxyethylcellulose, carboxymethylcellulose, hydroxyethylstarch and hydroxypropylguar, adsorbed onto said particles.

Claims 10-12. (canceled)

Claim 13. (currently amended) A toothpaste comprising one or more silica polishing agents, humectants, binders or aromas and 0.1–5% by weight of one or more calcium salts selected from the group consisting of amorphous calcium phosphate, hydroxylapatite, fluoroapatite, and calcium fluoride, said calcium salts being present in the form of a suspension of one or more of the salts in a liquid medium in which the salts are less than 1 g/l soluble, wherein the salts comprise primary particles having diameters of from 5 to 50 nanometers and lengths of from 10 to 150 nanometers, stabilized against agglomeration by a content of at least 0.01% by weight, based on the weight of the suspension, of a water-soluble surfactant or of a water-soluble polymeric protective colloid selected from the group consisting of gelatin, casein, starch, plant gums, cellulose ethers, methylcellulose, hydroxyethylcellulose, carboxymethylcellulose, hydroxyethylstarch and hydroxypropylguar adsorbed onto said particles.

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Claim 14. (currently amended) A method of remineralizing teeth comprising the steps of applying to a tooth a remineralizing-effective amount of a suspension of one or more phosphate calcium salts, fluoride calcium salts, or fluorophosphate calcium salts in a liquid medium in which these salts are less than 1 g/l soluble, wherein the calcium salts comprise primary particles having diameters of from 5 to 50 nanometers and lengths of from 10 to 150 nanometers, stabilized against agglomeration by a content of at least 0.01% by weight, based on the weight of the suspension, of a water-soluble surfactant or of a water-soluble protective colloid selected from the group consisting of gelatin, casein, starch, plant gums, cellulose ethers, methylcellulose, hydroxyethylcellulose, carboxymethylcellulose, hydroxyethylstarch and hydroxypropylguar adsorbed onto said particles.

Claim 15. (currently amended) A suspension of one or more phosphate calcium salts, fluoride calcium salts, or fluorophosphate calcium salts in a liquid medium according to claim 8, in which the salts are less than 1 g/l soluble, wherein the calcium salts comprise primary particles having diameters of from 5 to 50 nanometers and lengths of from 10 to 150 nanometers, stabilized against agglomeration by a content of at least 0.01% by weight, based on the weight of the suspension, of a water-soluble surfactant or of a water-soluble gelatin adsorbed onto said particles.

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Claim 16. (currently amended) A suspension according to claim 9, comprising 1% to 40% by weight of one or more phosphate calcium salts, fluoride calcium salts or fluorophosphate calcium salts in a liquid medium in which the salts are less than 1 g/l soluble, wherein the calcium salts comprise primary particles having diameters of from 5 to 50 nanometers and lengths of from 10 to 150 nanometers, said particles stabilized against agglomeration by a content of at least 0.1% to 10% by weight, based on the weight of the one or more calcium salts, of a water-soluble surfactant or a water-soluble gelatin adsorbed onto said particles.

Claims 17-19. (canceled)

Claim 20. (currently amended) A toothpaste according to claim 13, comprising one or more silica polishing agents, humectants, binders or aromas and 0.1–5% by weight of one or more calcium salts selected from the group consisting of amorphous calcium phosphate, hydroxylapatite, fluoroapatite, and calcium fluoride, said calcium salts being present in the form of a suspension of one or more of the salts in a liquid medium in which the salts are less than 1 g/l soluble, wherein the salts comprise primary particles having diameters of from 5 to 50 nanometers and lengths of from 10 to 150 nanometers, stabilized against agglomeration by a content of at least 0.01% by weight, based on the weight of the suspension, of a water-soluble surfactant or of a water-soluble gelatin adsorbed onto said particles.

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Claim 21. (currently amended) A method of remineralizing teeth according to claim 14, comprising the steps of applying to a tooth a remineralizing-effective amount of a suspension of one or more phosphate calcium salts, fluoride calcium salts, or fluorophosphate calcium salts in a liquid medium in which these salts are less than 1 g/l soluble, wherein the calcium salts comprise primary particles having diameters of from 5 to 50 nanometers and lengths of from 10 to 150 nanometers, stabilized against agglomeration by a content of at least 0.01% by weight, based on the weight of the suspension, of a water-soluble surfactant or of a water-soluble gelatin adsorbed onto said particles.

Claim 22. (new) A toothpaste according to claim 13 comprising at least one humectant and 0.1–5% by weight of one or more calcium salts selected from the group consisting of amorphous calcium phosphate, hydroxylapatite, fluoroapatite, and calcium fluoride, said calcium salts being present in the form of a suspension of one or more of the salts in a liquid medium in which the salts are less than 1 g/l soluble, wherein the salts comprise primary particles having diameters of from 5 to 50 nanometers and lengths of form 10 to 150 nanometers, stabilized against agglomeration by a content of at least 0.1 by weight, based on the weight of the suspension, of a water-soluble polymeric protective colloid selected from the group consisting of gelatin, casein, starch, plant gums, cellulose ethers, methylcellulose, hydroxyethylcellulose, carboxymethylcellulose, hydroxyethylstarch and hydroxypropylguar adsorbed onto said particles.

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Claim 23. (new) A toothpaste according to claim 22, comprising one or more silica polishing agents, humectants, binders or aromas and 0.1–5% by weight of one or more calcium salts selected from the group consisting of amorphous calcium phosphate, hydroxylapatite, fluoroapatite, and calcium fluoride, said calcium salts being present in the form of a suspension of one or more of the salts in a liquid medium in which the salts are less than 1 g/l soluble, wherein the salts comprise primary particles having diameters of from 5 to 50 nanometers and lengths of from 10 to 150 nanometers, stabilized against agglomeration by a content of at least 0.1 by weight, based on the weight of the suspension, of a water-soluble

gelatin adsorbed onto said particles.

Claim 24. (new) A method of remineralizing teeth according to claim 14 comprising the steps of applying to a tooth a remineralizing-effect amount of a suspension comprising 1% to 40% by weight of one or more phosphate calcium salts, fluoride calcium salts, or fluorophosphate calcium salts in a liquid medium in which these salts are less than 1 g/l soluble, wherein the calcium salts comprise primary particles having diameters of from 5 to 50 nanometers and lengths of from 10 to 150 nanometers, stabilized against agglomeration by a content of at least 0.1% by weight, based on the weight of the suspension, of a water-soluble protective colloid selected from the group consisting of gelatin, casein, starch, plant gums, cellulose ethers, methylcellulose, hydroxyethylcellulose, carboxymethylcellulose, hydroxyethylstarch and hydroxypropylguar adsorbed onto said particles.

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Claim 25. (new) A method of remineralizing teeth according to claim 24 comprising the steps of applying to a tooth a remineralizing-effective amount of a suspension comprising 1% to 40% by weight of one or more phosphate calcium salts, fluoride calcium salts, or fluorophosphate calcium salts in a liquid medium in which these salts are less than 1 g/l soluble, wherein the calcium salts comprise primary particles having diameters of from 5 to 50 nanometers and lengths of from 10 to 150 nanometers, stabilized against agglomeration by a content of at least 0.1 % by weight, based on the weight of the suspension, of a water-soluble gelatin adsorbed onto said particles.